

DRAINAGE MANAGEMENT PLAN

Location
LOTS 1-A, 6, 7, 8, 9, AND 10, BLOCK 2, CITY REALTY COMPANY'S ADDITION NO. 1; TOGETHER WITH LOTS 4, 5, AND 6, BLOCK 9, OF THE MANDELL ADDITION NO. 2, CONTAINING 1.2690 ACRE. See attached portion of Vicinity Map H-14-2 for exact location.

Purpose
The purpose of this drainage report is to present a conceptual grading and drainage solution for the proposed commercial buildings. We are requesting site plan for building permit approval.

Existing Site/Drainage Conditions

This site contained existing buildings, concrete pads, asphalt and some gravel. All the existing structures and asphalt and concrete have been removed. this site is fairly flat. Most of the site was dening into adjacent streets. No offsite runoff impacts this site.

Proposed Conditions and On-Site Drainage Management Plan

This site is located within zone 2 and in the north valley. We are proposing a building with ground level and underground parking structure. This site will pond most of water and discharge at a control rate. According to grading plan file H-14-2008, the north valley rate of discharge is 2.75 CFS per acre. This site contains 1.2690 acre (5,277.54 SF). Therefore our proposed discharge rate will be 14.46 CFS (1.2690 ac * 2.75 CFS/acre). The difference between the developed flow (5.9643 CFS) and allowable discharge (14.46 CFS) will be 2.4745 CFS (5.9643-3.4898), therefore the amount of the ponding required will be 4,051.73 CF.

We are proposing two parking lot ponding for this site with a control discharge. One is at the southeast side of the property and another smaller is at southwest side along south property line, see grading plan for location. All the water except the some of the proposed driveways which will be draining directly into adjacent street, will drain into the parking lots. These ponds will eventually drain into the side streets via sidewalk, culvers or driveways. The total volume ponding provided is 4,928.05 CF which is greater than required 4,051.73 CF.

PONDING VOLUME REQUIRED

TOTAL AREA = 55,277.54 SF = 1.2690 ACRE
ZONE 2 LAND TREATMENT TABLE A-8, D=212
D=55,277.54 SF/1.2690 AC
VOL. (100'-Y'-6hr) = 58277.54*212/12 = 9,765.72 CF
Q (100'-Y'-6 hr) (USING TABLE A-9, ZONE 2) = 4.7*1.2690= 5.9643 CFS
ALLOWABLE RUNOFF = 2.75/AC * 1.2690 AC = 3.4898 CFS
ADDITIONAL RUNOFF = 5.9643-3.4898 = 2.47 CFS
PONDING VOLUME REQUIRED = 9,765.72/5.9643 * 2.47 = 4,051.73 CF

POND VOLUME REQUIRED FOR FIRST FLUSH
0.34 INCHES * IMPERVIOUS AREA = (0.34/12 * 55,277.54) = 1,566.20 CF
THIS VOLUME IS PART OF THE PONDING PROVIDED.

PONDING AREA PROVIDED

TOTAL POND AREA PROVIDED = PONDING CALCULATIONS:
POND A, AREA @ TOP = 6395.45, BOTTOM =2942.70, DEPTH=0.65'
POND VOLUME = (6395.45+4140.96)/2*0.65 = 3,099.90 CF
POND B, AREA @ TOP = 5625.08, BOTTOM =2812.54, DEPTH=0.65'
POND VOLUME = (5625.08+2812.54)/2*.65' = 1,828.15 CF
TOTAL POND VOLUME PROVIDED = (3099.90+1828.15) = 4,928.05 CF

SIDEWALK CULVERT/CONCRETE CHANNEL AND POND OPENING CALCULATIONS

24" Sidewalk Culvert 8" High Chebotan Using Water Equation
Q=CLN1.5
H = 0.67', C = 2.95, L=24" (2.00')
2.95*24/(0.71'.50) = 2.95*24/5.4841606
Q = 3.256 cfs
18" Wide With 8" High Concrete Channel Using Water Equation
Q=CLN1.5
H = 0.67', C = 2.95, L=18" (1.50')
2.95*18/(0.71'.50) = 2.95*18/5.4841606
Q = 2.427 cfs

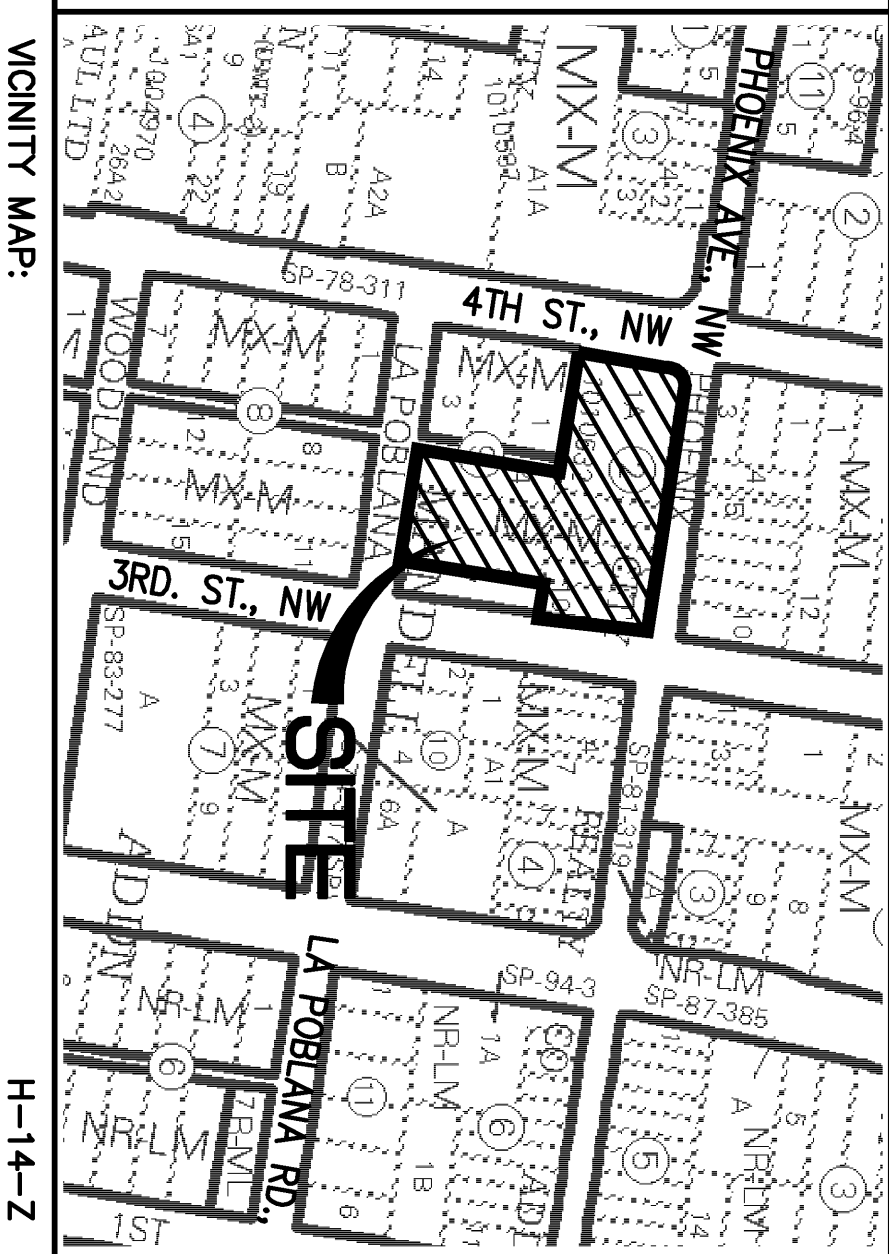
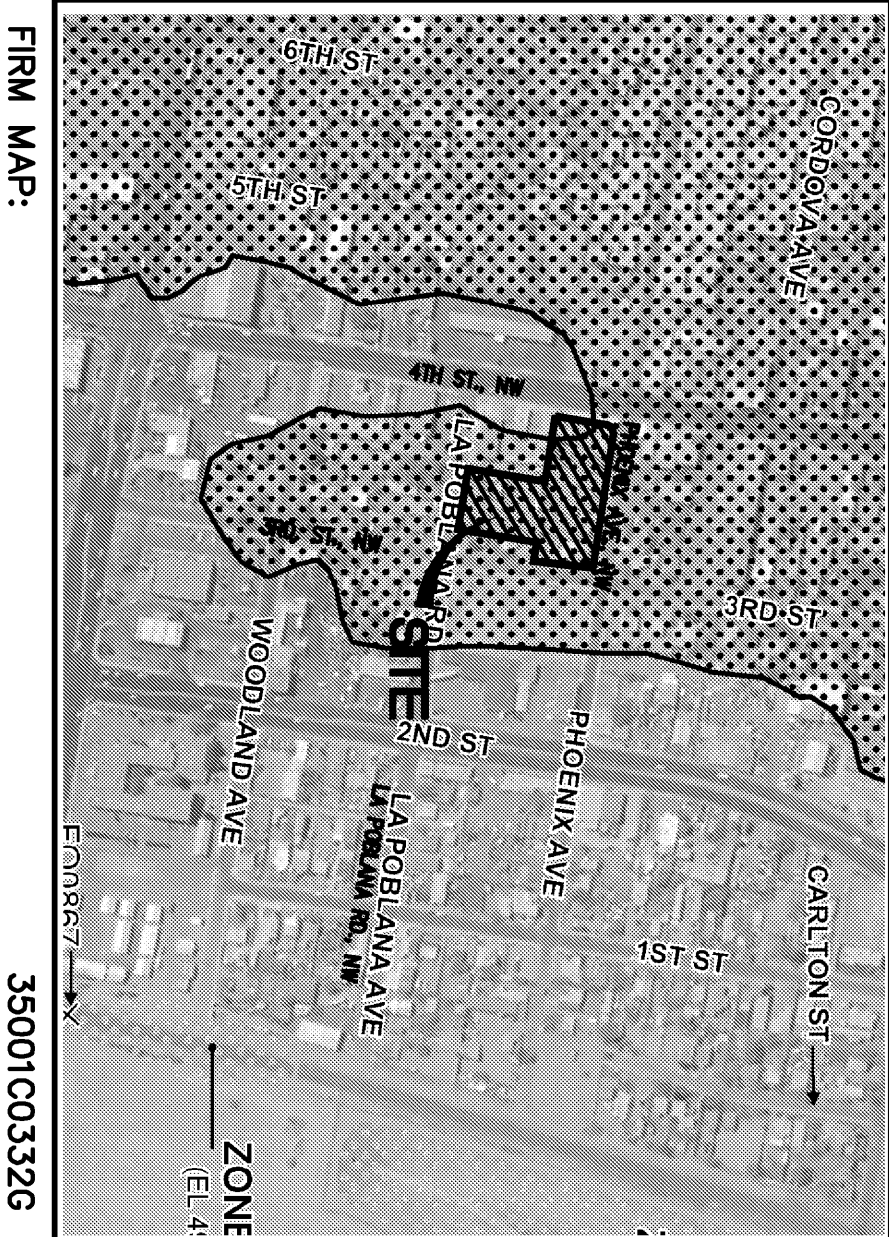
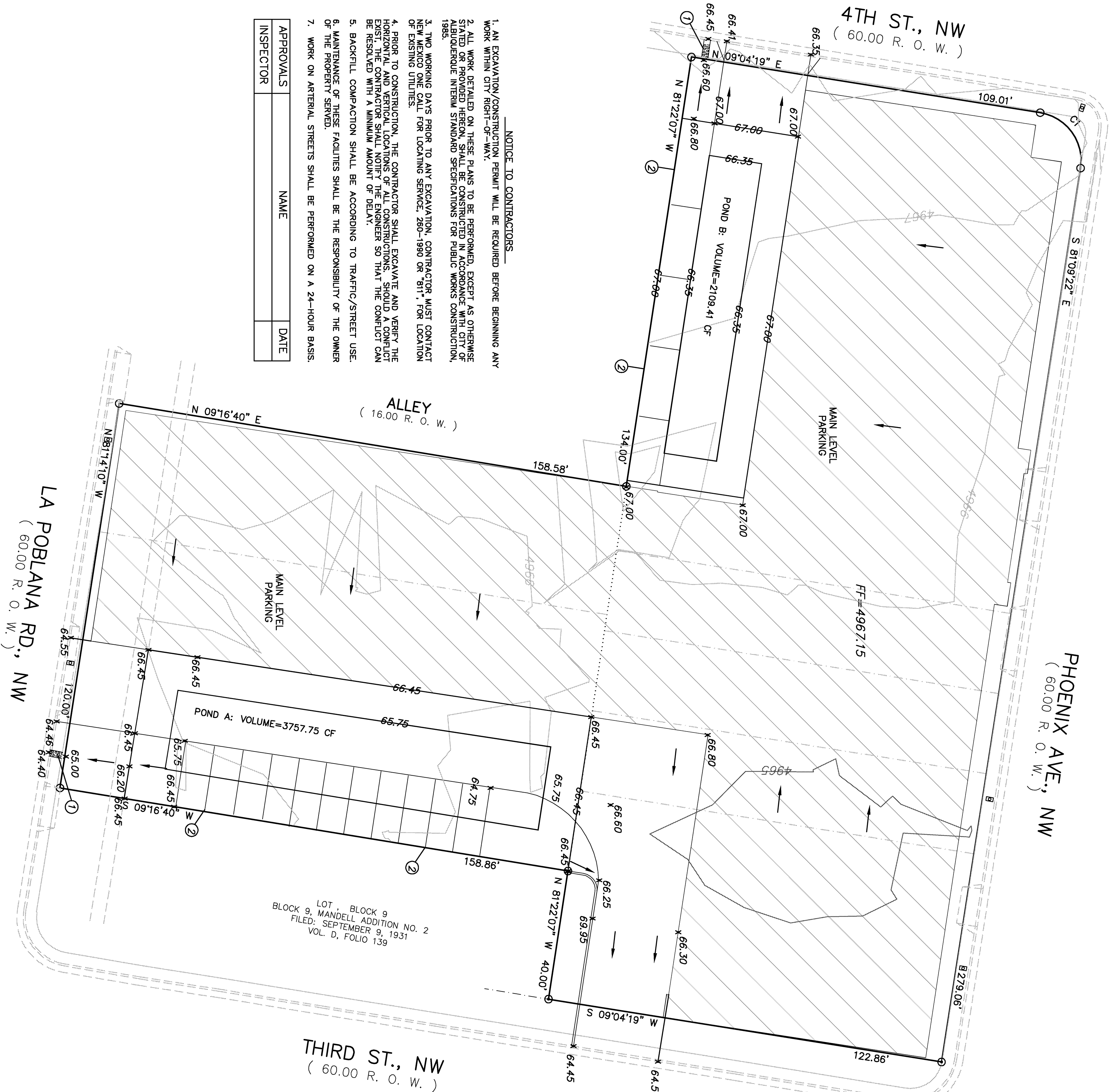
NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN BERNALILLO COUNTY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH BERNALILLO COUNTY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS, SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

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3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL FOR LOCATING SERVICE, 285-1990 OR "811", FOR LOCATION OF EXISTING UTILITIES.
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APPROVALS	NAME	DATE
INSPECTOR		



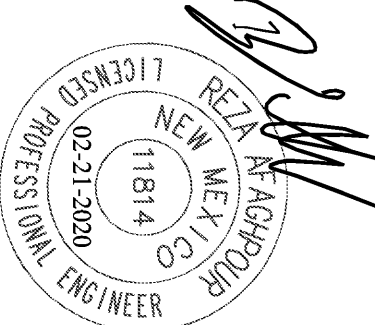
- GENERAL NOTES:
1. CONTOUR INTERVAL IS HALF (1.00) FOOT.
 2. ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 5NW-1, HAVING AN ELEVATION OF 4989.728 FEET ABOVE SEA LEVEL.
 3. UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
 4. THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
 5. SLOPES ARE AT 3:1 MAXIMUM.

KEYED NOTES:

1. PROPOSE 24" SIDEWALK CULVERT.
2. PROPOSE 8" CURB.

LEGEND

- 5030 EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- BOUNDARY LINE
- X 28.50 PROPOSED SPOT ELEVATION
- X 5029.16 EXISTING GRADE
- X 5028.65 EXISTING FLOWLINE ELEVATION
- FL
- PROPOSED RETAINING WALL
- BC=89.08 BOTTOM OF CHANEL
- TC=28.50 TOP OF CURB
- TA=28.00 TOP OF ASPHALT
- HP HIGH POINT
- 86.55 AS-BUILT GRADES
- 86.47 AS-BUILT SPOT ELEVATIONS
- X 86.65



SBS CONSTRUCTION
AND ENGINEERING, LLC

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(505)995-5700

REZA AVAGHROUR
P.E. #1814

GRAPHIC SCALE
20 10 0 20
SCALE: 1"=20'

2818 4TH STREET, NW
GRADING AND DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
201836.DWG	SH-B	02-20-2020	C 101